Weekly Summary Report
USEPA Oversight, Sauget Area 2, Sauget, IL
WA No. 224-RXBF-05XX / Contract No. 68-W6-0025

Week Ending Friday October 31, 2003

This report summarizes the Remedial Action (RA) work conducted by Solutia and its contractors from October 25, 2003 through October 31, 2003. The current RA fieldwork consists of barrier wall trenching and site preparation.

Contractors Onsite

Golder Associates (consultant for Solutia)
Inquip Associates Inc. (barrier wall construction contractor)
Lowry Electric (electrical contractor to Solutia)
Nilex (installing wick drains, subcontractor to Inquip)
Pangea Group (construction support services, primary subcontractor to Inquip)
PSI (Professional Service Industries) (geotechnical testing services, subcontractor to Inquip)
Rockhill Mechanical (pipefitting contractor to Solutia)
URS (primary consultant for Solutia)

Work Performed This Week

Groundwater Migration Control System (GMCS)

The Groundwater Migration Control pumping system was operated at approximiately 1,750 gallons per minute (i.e., 583 gallons per minute per extraction well).

The surge protector for piezometer P2E that had failed during the previous week was replaced by URS on October 28, 2003. Subsequently, the transducer for P2E was again communicating properly with the GMCS. Water (possibly from the surrounding spoils) had seeped into the surge box. Later in the week, URS placed approximately 6-foot long sections of 12-inch diameter HDPE pipe around the surge protector in the exclusion zone to help prevent spoils and moisture from coming in contact with the surge box.

Equipment Mobilization

Work to assemble the third clamshell rig progressed during the week. The crane was fully assembled by the end of the week, however, the clamshell bucket was not mounted to the crane.

Site Preparation

Pangea continued work during the week to extend the work platform, upon which the KH1266 trackhoe and Liebherr cranes operate, to the south. The work platform was extended from approximately station 16+00 to station 8+00 during the week, though some areas of the platform still required additional lifts of rock to bring the platform to the appropriate grade / elevation. Rock tailings were delivered to the site, leveled and compacted in 1-foot lifts to build the work platform.

The installation of the steel plate to cover the outfall to the Mississippi River of the abandoned box culvert that runs below the north end of Site R was completed on October 25, 2003 On October 27, 2003 the two valves that are attached to the steel plate were mounted The valves remain open Water continued to leak very slowly from box culvert during the week

Stabilization Issue

Nilex completed installing the wick drains at the soft ground on October 25, 2003 The locations that had cemented fly ash refusal previously were redrilled with a slide auger in order to install the wick drains The wick drains were installed to a depth of 35 feet below ground surface

After the wick drains were installed, Pangea completed the installation of the raised work platform throughout the stabilization area This completes the action to respond to the stabilization issue in the southern portion of the site

Slurry Mixing

Approximately 141 tons of bentonite gel was used to mix slurry this week The slurry, when pumped from the south holding pond to the trench, was tested frequently to assess its viscosity and adjusted with a water blending pump as necessary The viscosity of the slurry was measured by recording the time to filter the slurry into a fixed volume container The viscosity values obtained during the week were generally satisfactory

Spoils Handling

During the week, spoils were transferred from the western portion of the exclusion zone adjacent to the barrier wall trench to the spoils containment area on top of the landfill Spoils were scooped up using a trackhoe, placed into a specially-modified dump truck and transported to the landfill This spoils containment area was used for drying spoils during the week

Barrier Wall Construction

Inquip has opened the trench to approximately 900 feet in length along the barrier wasll alignment, from station 27+50 towards station 18+40 (please refer to Solutia's map for locations) In general, a small backhoe was used to excavate the first 10 feet and then KH1266 trackhoe continued trenching up to 95 feet in depth while the clamshell rigs were used subsequently to complete the excavation down to bedrock Both clamshell rigs were functional during the week, however, several repairs were necessary to the clam buckets due to damage that occurred during trenching

Bentonite slurry was pumped into the trench as needed to keep the excavation open The depth to slurry in the trench was consistently maintained at less than two feet below ground surface The slurry in the trench, together with the slurry from the south holding pond, were tested two to three times a day for the following parameters viscosity, density, filtrate loss, pH, and sand content The test results were satisfactory and met the minimum requirements specified for the barrier wall construction

The frequency and spacing of trench depth measurements was during the week Instead of trench depths being measured twice daily (AM and PM) every 20 to 40 linear feet of open trench, the frequency of trench depth measurements was switched to once daily (AM) and every 100 linear feet of trench (with 20-foot spacing of measurements delineating the toe of

the backfill) The morning trench depth measurements from October 31 that depict the weekly progress are shown in Table 1 Construction progress by October 31, 2003 is shown below Graph 1 shows the progress of the trench in comparison to the previous week Graph 2 shows the overall progress of the barrier wall construction

During the week, Inquip mixed and placed into the trench approximately 250 cubic yards of backfill material The backfill consists of spoils with the addition of approximately 3 percent granular bentonite in dry weight Backfill, which was only placed on October 28, 2003, was 'back-tracked' into the trench using a bulldozer Back-tracking is when the bulldozer backs up to the 1 1 slope of the trench and squeezes the backfill between the track feet into the trench – this method does not cut the backfill and push unknown debris on the ground surface, such as cobbles, into the trench

The backfill was tested by PSI for slump, unit weight and moisture content The unit weight of backfill placed on October 28 was measured at 121 8 pounds per cubic foot (pcf), approximately 30 pcf greater than the trench slurry All test results met the minimum requirements Additional tests on the backfill, including permeability, were to be tested off site by Inquip's contract laboratory

Prior to the backfill operation, the bottom of trench was cleaned thoroughly using one of the clamshell rigs Depth-to-bottom measurements were made every 10 linear feet of trench to ensure the bottom of the trench was at a consistent depth and on top of bedrock These depth measurements were performed with the clamshell rig's instrumentation and confirmed in two locations manually with the downrigger (plumbob and tape) Additionally, two samples with a clam sampler were collected by URS and PSI from the top of the placed backfill in the trench prior to adding more backfill These backfill samples were visually checked to ensure that the trench bottom was clean and free of any sand

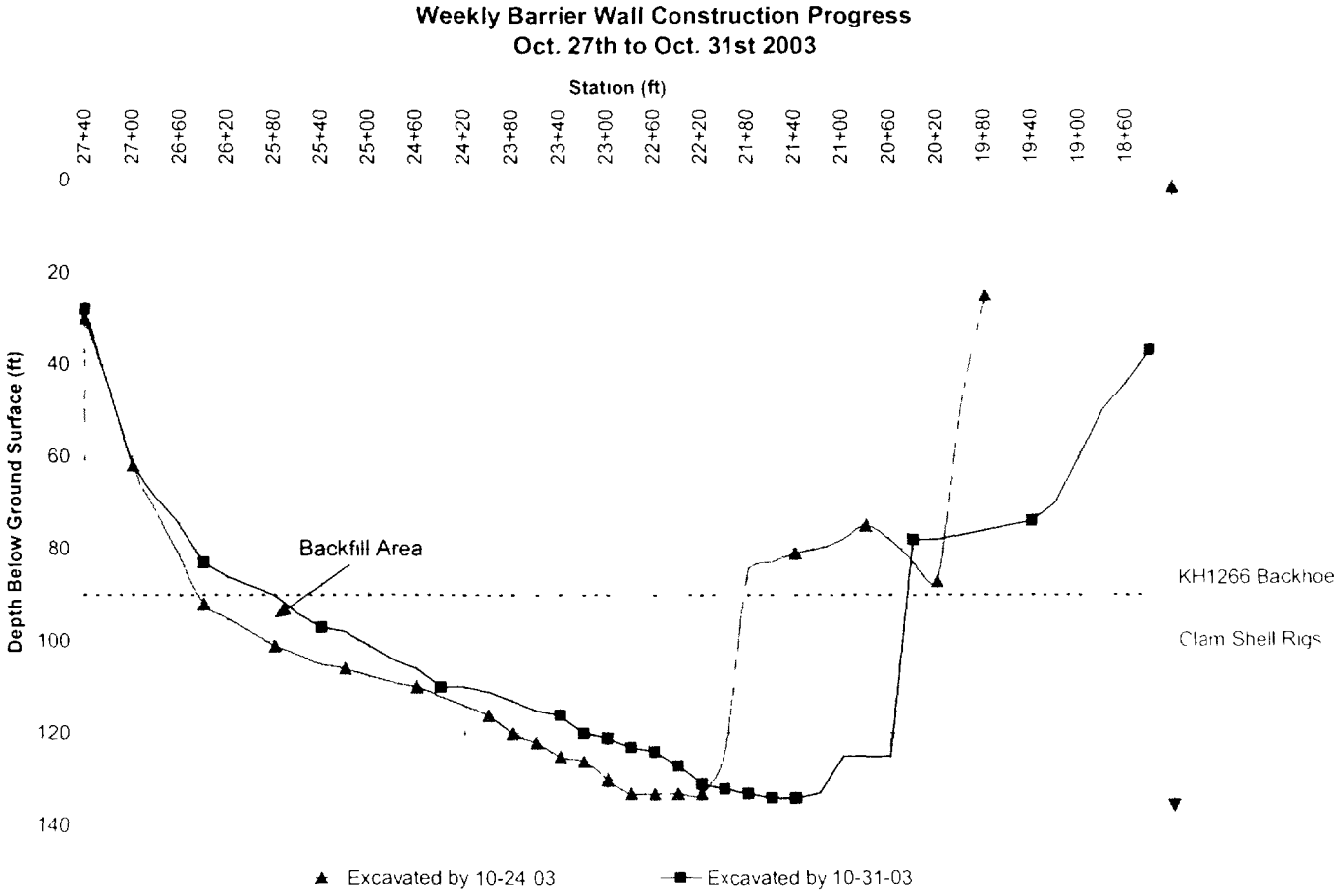
Table 1 – Depths-to-bottom Measurements for the Barrier Wall Trench (Morning of October 31 2003)

Station ID	Depth to bottom (ft below ground surface)
27+40	28
26+40	83
25+40	97
24+40	110
23+40	116
23+20	120
23+00	121
22+80	123
22+60	124
22+40	127
22+20	131
22+00	132
21+80	133
21+60	134
21+40	134
20+40	78
19+40	74
18+40	37

Note Distances between stations where trench depth measurements were read varies in Table 1 Measurements are separated by 100 linear feet of trench in most areas however the area that delineates the toe of the backfill is measured every 20 feet

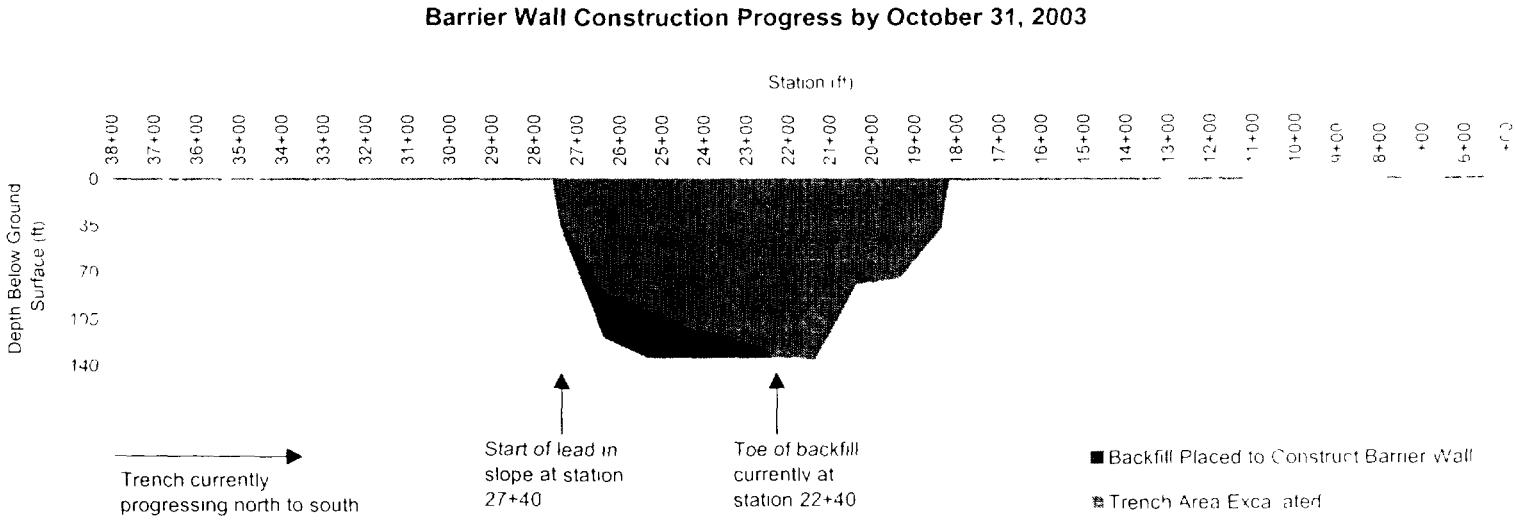
Construction Progress

Graph 1



Note Data plotted for week through AM measurements on 10 31 03 PM trench measurements have ceased
Only data points with markers were measured – other data points were extrapolated based on best information available

Graph 2



Health and Safety

On October 25, 2003, an Inquip (Solentanche) clamshell operator had his foot injured while performing maintenance on the rig A part of the rig hit the operators foot He was sent to the hospital for treatment and did not return to work during the week

Two incidents with Grantham trucks that were delivering rock to the site occurred during the week On October 27, a truck reversed into a car onsite, and on October 31, a truck pulled down some of telephone lines to the trailers with a raised bed No injuries were associated with these incidents

Other Activities

Rockhill Mechanical and Lowry Electric were onsite during the week performing activities associated with the Freeze Protection System for the Stormwater Treatment System The freeze protection system includes (1) installing a recirculation loop for water through the filtration skid and carbon treatment columns, (2) installing a tent with heat lamps through which recirculated water will pass, (3) installing heat tracing, and (4) placing concrete blankets over pipes for insulation The efforts are to prevent freezing of the stormwater treatment system over winter Rockhill Mechanical are pipefitting for the project, Lowry Electric are performing all electrical work and installing the heat tracing, and Pangea are performing any other necessary work

Photos from week - October 27 through October 31, 2003:

Steel plate and valves were placed over outfall of box culvert (October 28, 2003)

Spoils were transported from exclusion zone to temporary spoils containment area on top of the landfill (October 30, 2003)

Lip and teeth of clam bucket torn off during trenching (October 31, 2003)